

Claims

What is claimed:

1. A method of fabricating an electro-optical device suitable for use in an image
5 forming system, comprising the steps of:
 - a) applying a first filter layer above a substrate;
 - b) applying an inter-filter layer over at least the first filter layer; and
 - c) applying a second filter layer over at least a portion of the inter-filter layer
without removing the inter-filter layer.
- 10 2. A method as in claim 1, further including the step of applying a base layer on the
substrate before the step of applying a first filter layer.
3. A method as in claim 1, further including the step of mounting the electro-optical
15 device in an image forming system.
4. A method as in claim 1, wherein the inter-filter layer is substantially colorless.
5. A method as in claim 1, wherein the inter-filter layer is composed of an optically
20 transmissive, film-forming polymer material.
6. A method as in claim 1, wherein at least one of the first filter layer and the
second filter layer contains a pigment.

7. A method as in claim 1, wherein the step of applying an inter-filter layer includes applying the inter-filter layer on an area of the substrate not covered by the first filter layer, thereby smoothing a top surface of the electro-optical device.

5 8. A method of making an electro-optical device for image sensing, the method comprising:

a) providing a substrate of the electro-optical device;

b) inserting a first photosensor and a second photosensor into the substrate of the electro-optical device;

10 c) applying a base layer on the substrate;

d) covering an area of the base layer that overlies the first photosensor with a patterned first filter layer, the first filter layer preferentially allowing light having a wavelength within a first range to reach the first photosensor;

15 e) applying an inter-filter layer on the first filter layer and on an area of the base layer not covered by the first filter layer, thereby smoothing a top surface of the electro-optical device; and

20 f) without removing the inter-filter layer, covering an area of the inter-filter layer that overlies the second photosensor with a patterned second filter layer, the second filter layer preferentially allowing light having a wavelength within a second range to reach the second photosensor.

9. A method as in claim 8, wherein at least one of the base layer and the inter-filter layer is colorless and translucent.

10. A method as in claim 8, wherein the inter-filter layer contains acrylic.

11. A method as in claim 8, wherein at least one of the first filter layer and second filter layer contains a pigment.

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12. A method as in claim 8, further comprising applying a second inter-filter layer on the second filter layer and on an area of the inter-filter layer not covered by the second filter layer, thereby smoothing a second top surface of the electro-optical device.

10 13. A method as in claim 12, wherein at least one of the base layer and the second inter-filter layer is colorless and translucent.

14. A method as in claim 12, wherein the second inter-filter layer contains acrylic.

15 15. A method as in claim 12, wherein at least one of the first filter layer and second filter layer contains a pigment.

16. A method as in claim 12, wherein the electro-optical device includes a linear array chip.

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17. An electro-optical device for image sensing, comprising:

a) a substrate;

b) a first photosensor and a second photosensor disposed within the substrate;

c) a patterned first filter layer disposed on an area of the substrate that overlies the first photosensor, the first filter layer preferentially allowing light having a wavelength within a first range to reach the first photosensor;

5 d) an inter-filter layer disposed permanently on the first filter layer and at least on a portion of the substrate, the inter-filter layer smoothing a top surface of the electro-optical device; and

e) a patterned second filter layer disposed on an area of the inter-filter layer that overlies the second photosensor, the second filter layer preferentially allowing light having a wavelength within a second range to reach the second
10 photosensor.

18. An electro-optical device as in claim 19, wherein the inter-filter layer is colorless and translucent.

15 19. An electro-optical device as in claim 19, wherein the inter-filter layer contains acrylic.

20. An electro-optical device as in claim 19, further comprising a second inter-filter layer disposed on the patterned second filter layer and on an area of the inter-filter layer
20 not covered by the patterned second filter layer, thereby smoothing a second top surface of the electro-optical device.